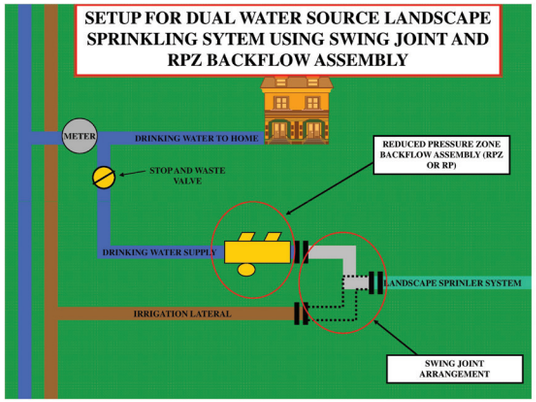


Rules and Regulations Regarding Dual Source Systems
Utah Code 19-4-112

Where nonpotable water is conveyed in pipelines under pressure in areas served by a potable water system, the following precautions shall be observed:

- a distinctive coloring or other marking on all exposed portions of the nonpotable system shall be used;
- potable and nonpotable water system service lines and extensions shall be completely separated and shall be installed in separate trenches;
- all hydrants and sprinkling system control valves shall be operated by a removable key so that it is not possible to turn on the hydrant or valve without a key;
- **there shall be no cross connection between the potable and nonpotable water systems**;
- the nonpotable system shall not be extended into any building except greenhouses or other buildings for plant and animal production; and
- no connection in the nonpotable water system shall be made except by the persons responsible for its management.

Utah Drinking Water Rules
R309-105-12(5)

Suppliers serving areas also served by a pressurized irrigation system shall prevent cross connection between the two. Requirements for pressure irrigation systems are outlined in Section 19-4-112 of the Utah Code.

Sandy
PUBLIC UTILITIES

For More Information
Sandy City Backflow Division
(801) 352-4400
sandy.utah.gov/backflowprevention

Dual Source Landscape Irrigation utilizes an alternative source of water, such as pressurized irrigation, private wells or ponds, in addition to the public drinking water system, to provide a source of water to a landscape sprinkling systems. Utilizing a dual source system is acceptable, as long as the proper steps are taken to protect the quality of the public drinking water supply and the health of the consumers.

DUAL SOURCE
Landscape Irrigation Systems

Are there dangers associated with dual source landscape sprinkling systems?

Yes! Alternative water supplies are not safe to drink, possibly containing disease causing organisms. In addition, once the water from the public water system enters the landscape sprinkling system, it is considered no longer safe to drink as well.

Is it possible for the water to flow from the landscape sprinkling system back into the public drinking water supply?

Water can **backflow** into the public drinking water systems through unprotected **cross connections**. A cross connection is a connection between the public drinking water system and anything else such as liquid.

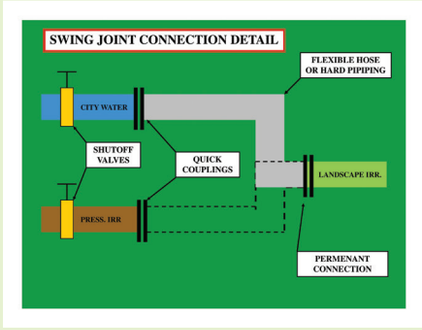
Two things, backpressure and backsiphonage can cause a backflow condition. **Backpressure** occurs when the customers landscape sprinkling system pressure exceeds pressure in the public water supply, causing potentially contaminated water to be pushed back into the public drinking water system. **Backsiphonage** occurs when a public water systems pressure drops to a negative pressure and creates a vacuum condition in the water system, allowing the contaminated water to be siphoned back into the drinking water system. This can be caused by such things as water line breaks, firefighting efforts, or any other high volume water uses downstream.

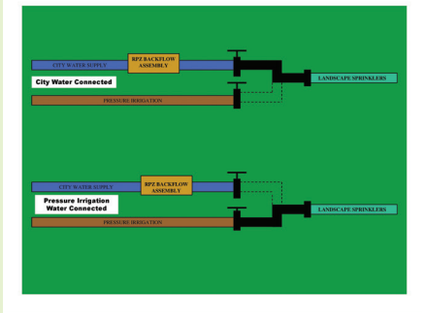
What is needed in order to utilize a dual source to supply a landscape sprinkling system?

Utah Public Drinking Water Rules allows the use of dual source systems using following setup:

Swing Joint Connection

A sprinkling system utilizing both an alternative water source and the public drinking water system must use a **swing joint connection** to insure that EITHER ONLY the pressurized irrigation OR the public water supply is connected to the landscape sprinkling system **(Only one supply source can be connected at a time)**.





Reduced Pressure Zone Backflow Assembly

In addition, a **Reduced Pressure Zone (RPZ)** backflow assembly must be installed on the drinking water system supply before the swing joint connection. The **RPZ** prevents any residual contamination in the landscape sprinkling system from coming back into the public water supply. Reduced Pressure Zone backflow assemblies must be tested by a commercial certified backflow technician within ten (10) days of initial use and annually thereafter. **Completed test reports must be forwarded to Sandy City Public Utilities.**